

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (original) A method of wideband speech decoding, comprising:

- (a) decoding a first portion of an input signal as a lowband speech signal;
- (b) decoding a second portion of an input signal as a noise-modulated excitation of a linear prediction encoding wherein said noise modulated excitation is noise modulated by a portion of the results of said decoding as a lowband speech signal of preceding step (a) and adaptively smoothed; and
- (c) combining the results of foregoing steps (a) and (b) to form a decoded wideband speech signal.

Claim 2 (original) A wideband speech decoder, comprising:

- (a) a first speech decoder with an input for encoded narrowband speech;
- (b) a second speech decoder with an input for encoded highband speech and an input for the output of said first speech decoder, said second speech decoder using excitation of noise modulated by a portion of the output of said first speech decoder and adaptively smoothed; and
- (c) a combiner for the outputs of said first and second speech decoders to output decoded wideband speech.

Claim 3 (new) The method of claim 1, wherein:

- (a) said decoding of step (a) of claim 1 includes:
 - (i) extracting a lowband linear prediction filter from said input signal,
 - (ii) extracting a lowband excitation from said input signal,
 - (iii) extracting a lowband gain from said input signal,

(iv) applying said lowband excitation to said lowband linear prediction filter, and

(v) applying said gain to results of said step (iv); and

(b) said decoding of step (b) of claim 1 includes:

(vi) extracting a highband linear prediction filter from said input signal,

(vii) extracting a highband scale factor from said input signal,

(viii) bandpass filtering the results of said step (v),

(ix) applying said highband scale factor to the results of said step (viii),

(x) smoothing the results of said step (ix) with prior decoding results,

(xi) modulating noise with the results of said step (x), and

(xii) applying the results of said step (xi) to said highband linear prediction filter.

Claim 4 (new) The method of claim 3, wherein:

(a) said step (b) of claim 3 includes smoothing said highband scale factor with prior decoding results.

Claim 5 (new) The decoder of claim 2, wherein:

(a) said first decoder of step (a) of claim 2 uses:

(i) extraction of a lowband linear prediction filter from input,

(ii) extraction of a lowband excitation from input,

(iii) extraction of a lowband gain from input,

(iv) application of said lowband excitation to said lowband linear prediction filter, and

(v) application of said gain to results of said application (iv); and

(b) said second decoder of step (b) of claim 1 uses:

(vi) extraction of a highband linear prediction filter from input,

(vii) extraction of a highband scale factor from input.

(viii) bandpass filtering of the results of said application (v),

(ix) application of said highband scale factor to the results of said bandpass filtering (viii),
(x) smoothing of the results of said application (ix) with prior decoding results,
(xi) modulation of noise with the results of said smoothing (x), and
(xii) application of the results of said modulation (xi) to said highband linear prediction filter.

Claim 6 (new) The decoder of claim 5, wherein:

(a) said second decoder of (b) of claim 5 uses smoothing of said highband scale factor with prior decoding results.